

REMARKS

A restriction requirement has been imposed in the above-identified application requiring an election of one of the following inventions:

- I. Claims 1-10 and 19-28, drawn to an aircraft heated floor panel; and
- II. Claims 11-18 and 29, drawn to a method of making an aircraft heated floor panel.

Applicant hereby elects claims 1-10 and 19-28²⁸ drawn to the aircraft heated floor panel. Method claims 16-18 and 29 have been canceled without prejudice of disclaimer. Method claims 11-15 depend from elected claim 1 and method claims 26-28 depend from elected claim 19 whereby rejoinder of these method claims (upon allowance of their respective base claims) is respectfully requested.¹

As a final matter, claim 13 has been amended to correct what appears to be typographical error. A clean listing of the now pending claims is attached.

Should a petition for an Extension of Time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary) petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988, Order No. BFGHP0265US.

Respectfully submitted,

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1. Accordingly, the election of claims 1-10 and 19-28 is made without traverse on the condition that the potential rejoinder of non-elected claims 11-15 and 26-28 is not waived.



CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

Date: 10/22/2001

Marian Vasquez
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CLAIMS

1. An aircraft heated floor panel, comprising:
a plurality of layers cured together to form a lower support level and an upper heater level;
a metal face sheet for protecting the top of the panel from floor-traffic related damage; and
a pressure sensitive adhesive bonding the metal face sheet to the underlying support/heater layers.
2. An aircraft heated floor panel as set forth in claim 1, wherein the support layer includes a honeycomb layer sandwiched between fiber layers.
3. An aircraft heated floor panel as set forth in claim 1, wherein the heater level comprises a resistive element encapsulated in cured thermoset plastic plies.
4. An aircraft heated floor panel as set forth in claim 1, wherein the metal face sheet is made of a metal selected from aluminum, titanium, steel, or stainless steel.
5. An aircraft heated floor panel as set forth in claim 1, wherein the support layer includes a honeycomb layer sandwiched between fiber layers, the heater level comprises a resistive element encapsulated in cured thermoset plastic plies, and the metal face sheet is made of aluminum.
6. An aircraft heated floor panel as set forth in claim 1, wherein the underlying support/heater layers include a high temperature curing adhesive layer between the support level and the heater level.

7. An aircraft heated floor panel as set forth in claim 1, wherein the pressure sensitive adhesive is an acrylic pressure sensitive adhesive.

8. An aircraft heated floor panel as set forth in claim 1, wherein the pressure sensitive adhesive is a rubber pressure sensitive adhesive.

9. An aircraft heated floor panel as set forth in claim 1, further comprising a primer to enhance the bonding characteristics of the adhesive.

10. In combination, an aircraft and the aircraft heated floor panel of claim 1, wherein the perimeter of the lower support level is supported by a structure of the aircraft.

11. A method of making the aircraft heated floor panel of claim 1, said method comprising the steps of:

applying a layer of the pressure sensitive adhesive to the top of the heater level,
placing the metal face sheet on top of the adhesive layer,
curing the support/heater layers and the metal face sheet at an elevated curing temperature, and
cooling the cured layers and the metal face sheet to an ambient temperature;
wherein the pressure sensitive adhesive layer allows the metal face sheet to expand and contract at a different thermal expansion rate than the support/heater layers during the curing and cooling steps.

12. A method as forth in claim 11, wherein the curing temperature is at least about 250° F.

ai 13. A method as set forth in claim 11, wherein the layer of the pressure sensitive adhesive is about 0.010 inch and wherein the curing temperature is about 280° F.

14. A method as set forth in claim 11, wherein the face sheet is cut to net shape prior to the curing step.

15. A method as set forth in claim 11, wherein a surface treatment is applied to the face sheet prior to the curing step.

19. An aircraft heated floor panel, comprising:
a plurality of layers cured together to form a lower support level and an upper heater level, these support/heater layers together having a certain rate of thermal expansion;
a face sheet for protecting the top of the panel from floor-traffic related damage, the face sheet having a different rate of thermal expansion than the underlying support/heater layers; and
an elastic adhesive bonding the face sheet to the underlying support/heater layers whereby the different rates of thermal expansion may be accommodated during curing procedures.

20. An aircraft heated floor panel as set forth in claim 19, wherein the face sheet has a higher rate of thermal expansion than the underlying support/heater layers.

21. An aircraft heated floor panel as set forth in claim 20, wherein the face sheet is made of metal.

22. An aircraft heated floor panel as set forth in claim 21, wherein the metal is selected from aluminum, titanium, steel, or stainless steel.

23. An aircraft heated floor panel as set forth in claim 21, wherein the elastic bonding adhesive is a pressure sensitive adhesive.

24. An aircraft heated floor panel as set forth in claim 23, wherein the pressure sensitive adhesive is an acrylic pressure sensitive adhesive.

25. An aircraft heated floor panel as set forth in claim 23, wherein the pressure sensitive adhesive is a rubber pressure sensitive adhesive.

26. A method of making the aircraft heated floor panel of claim 19, said method comprising the steps of:

applying a layer of the elastic bonding adhesive to the top of the heater level;

placing the face sheet on top of the adhesive layer;

curing the support/heater layers and the face sheet at an elevated curing temperature to form a composite structure; and

cooling the composite structure to an ambient temperature;

wherein the elastic bonding adhesive layer allows the face sheet to expand and contract at a different thermal expansion rate than the support/heater layers during the curing and cooling steps.

27. A method as set forth in claim 26, wherein the face sheet is cut to net shape prior to the curing step.

28. A method as set forth in claim 26, wherein a surface treatment is applied to the face sheet prior to the curing step.

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